

R E P O R T R E S U M E S

ED 016 131

VT 004 279

ENLISTED MEN SEPARATING FROM THE MILITARY SERVICE AS A
POTENTIAL SOURCE OF TEACHERS FOR VOCATIONAL AND TECHNICAL
SCHOOLS.

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REPORT NUMBER RES-SER-13

PUB DATE OCT 67

EDRS PRICE MF-\$0.25 HC-\$2.32 56P.

DESCRIPTORS- *VOCATIONAL EDUCATION TEACHERS, *TEACHER
RECRUITMENT, QUESTIONNAIRES, *ENLISTED MEN, INDIVIDUAL
CHARACTERISTICS, *VOCATIONAL INTERESTS, TEACHER SUPPLY AND
DEMAND, EMPLOYMENT EXPERIENCE, *TEACHER QUALIFICATIONS,

THE PRIMARY PURPOSE OF THE STUDY WAS TO DETERMINE
WHETHER THE MILITARY SERVICES OFFERED A POTENTIAL SOURCE FOR
VOCATIONAL AND TECHNICAL TEACHERS. MILITARY OFFICIALS
DESIGNATED ONE ARMY, ONE NAVY, AND ONE AIR FORCE BASE WHICH
REPRESENTED A TYPICAL SEPARATION CENTER FOR EACH PARTICULAR
SERVICE. A QUESTIONNAIRE, ADMINISTERED BY DESIGNATED BASE
OFFICIALS TO 1,152 ENLISTED MEN SEPARATING FROM THESE
SERVICES DURING JUNE OR JULY 1966, GATHERED INFORMATION ON
THEIR INTEREST IN TEACHING, EDUCATIONAL BACKGROUND,
OCCUPATIONAL EXPERIENCES, PERSONAL AND OTHER FACTORS.
TWENTY-SEVEN PERCENT EXPRESSED AN INTEREST IN TEACHING. THE
AGE GROUP, 21-22 YEARS, EXPRESSED AN ABOVE-AVERAGE INTEREST
AND WERE YOUNG ENOUGH TO AFFORD THE TIME TO MEET
CERTIFICATION REQUIREMENTS. THE PERCENTAGE INTERESTED
INCREASED DRAMATICALLY AS THE LEVEL OF EDUCATION INCREASED.
THOSE WHO HAD 13 OR MORE YEARS OF EDUCATION PRIOR TO MILITARY
SERVICE WERE THE GROUP MOST INTERESTED. THERE WAS NO POSITIVE
RELATIONSHIP BETWEEN YEARS OF ACTIVE MILITARY SERVICE AND
INTEREST IN TEACHING, BUT THE PERCENTAGE OF MEN INTERESTED
INCREASED CONSISTENTLY AS RANK INCREASED. OF THOSE
INTERESTED, 42 PERCENT HAD COMPLETED COURSE WORK AND 51
PERCENT REPORTED SOME TYPE OF OCCUPATIONAL EXPERIENCE IN THE
TECHNICAL, TRADE, OR INDUSTRIAL AREA, 82 PERCENT WERE WILLING
TO TAKE 1 OR MORE YEARS OF ADDITIONAL TRAINING TO QUALIFY FOR
TEACHING, A MAJORITY WOULD TEACH AT ANY LEVEL, AND 53 PERCENT
WOULD MOVE TO ANOTHER STATE. ABOUT 9 PERCENT OF THE SAMPLE,
104 MEN, WERE CLASSIFIED AS OUTSTANDING TEACHER PROSPECTS FOR
VOCATIONAL AND TECHNICAL AREAS. REFERENCES AND THE
QUESTIONNAIRE ARE INCLUDED. (EM)

ED016131

Research Series, no. 13

**ENLISTED MEN SEPARATING
FROM THE MILITARY SERVICE
AS A POTENTIAL SOURCE OF TEACHERS
FOR VOCATIONAL
AND TECHNICAL SCHOOLS**

**THE CENTER FOR VOCATIONAL
AND TECHNICAL EDUCATION
THE OHIO STATE UNIVERSITY
980 KINNEAR ROAD
COLUMBUS, OHIO 43212
OCTOBER 1967**

VT004279

The Center for Vocational and Technical Education has been established as an independent unit on The Ohio State University campus with a grant from the Division of Adult and Vocational Research, U. S. Office of Education. It serves a catalytic role in establishing a consortium to focus on relevant problems in vocational and technical education. The Center is comprehensive in its commitment and responsibility, multidisciplinary in its approach, and interinstitutional in its program.

The major objectives of The Center follow:

1. To provide continuing reappraisal of the role and function of vocational and technical education in our democratic society;
2. To stimulate and strengthen state, regional, and national programs of applied research and development directed toward the solution of pressing problems in vocational and technical education;
3. To encourage the development of research to improve vocational and technical education in institutions of higher education and other appropriate settings;
4. To conduct research studies directed toward the development of new knowledge and new applications of existing knowledge in vocational and technical education;
5. To upgrade vocational education leadership (state supervisors, teacher educators, research specialists, and others) through an advanced study and in-service education program;
6. To provide a national information retrieval, storage, and dissemination system for vocational and technical education linked with the Educational Research Information Center located in the U. S. Office of Education;
7. To provide educational opportunities for individuals contemplating foreign assignments and for leaders from other countries responsible for leadership in vocational and technical education.

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POTENTIAL SOURCE OF TEACHERS FOR VOCATIONAL AND TECHNICAL SCHOOLS

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*The Work Presented Or Reported Herein Was Performed Pur-
suant To A Grant From The U. S. Office Of Education, Depart-
ment Of Health, Education & Welfare.*

THE CENTER FOR RESEARCH AND LEADERSHIP DEVELOPMENT
IN VOCATIONAL AND TECHNICAL EDUCATION
980 Kinnear Road Columbus, Ohio

October 1967

PREFACE

In May of 1965 discussions between The Center and the American Vocational Association resulted in identifying the need for a project to study the supply and demand for teachers in vocational and technical education. It was believed that there was an urgent need for this type of study and a committee of educators and businessmen was called together in July to discuss the problem. The committee members who participated in this meeting are listed in Appendix B. As a result of this meeting The Center undertook a feasibility study entitled, "The Demand for and Selected Sources of Vocational and Technical Education Teachers."

This study entitled, "Enlisted Men Separating from the Military Service as a Potential Source of Teachers for Vocational and Technical Schools," was one phase of the larger project.

This publication was prepared by Dr. James W. Hensel, Specialist in Agricultural Education at The Center for Vocational and Technical Education. John R. Crunkilton and Douglas Bishop, Research Associates at The Center, provided major assistance in the collection of the data and in writing of the final report. Although the final responsibility for the content rests with The Center staff, grateful acknowledgement is given to the persons who provided major assistance at various points in the conduct of the study. A listing of these persons is given in Appendix B.

We hope this material will provide some insight into the solution of the teacher shortage. We solicit your reactions and suggestions for further investigation.

Robert E. Taylor, Director
The Center for Research and Leadership
Development in Vocational and Technical
Education

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ENLISTED MEN SEPARATING FROM THE MILITARY SERVICE AS A
POTENTIAL SOURCE OF TEACHERS FOR VOCATIONAL AND TECHNICAL SCHOOLS

SUMMARY

Purpose and Objectives

The primary purpose of the study was to determine whether the military services offered a potential source for teachers in vocational and technical education. Specific objectives of the study were:

1. To determine the percentage of enlisted men being separated from the military service who were interested in teaching as a future occupation.
2. To determine, for those interested in teaching: the age of the enlisted men being separated from the service, their educational background and occupational experience in relation to a vocational or technical subject area, their years of active duty and military rank, their vocational and technical course work background, the length of additional training they would be willing to take in order to qualify for teaching, the students they prefer to teach, and their willingness to move to a different part of the nation to accept employment.
3. To identify, from the number of respondents who had expressed an interest in teaching, enlisted men who possessed both educational and occupational qualifications to be considered as outstanding teacher prospects in vocational and technical schools.

Method and Procedures

During the fall of 1965 and early months of 1966, The Center for Vocational and Technical Education conducted a research project entitled, "The Demand for and Selected Sources of Vocational and Technical Education Teachers." One segment of the study involved an analysis of enlisted men separating from the military service.

Military officials designated one Army, one Navy, and one Air Force base, each of which represented a typical separation center for the particular service. Bases surveyed included:

U.S. Army Transfer Station, Fort Hamilton, New York; U.S. Naval Station, Treasure Island, California; McGuire Air Force Base, New Jersey.

The questionnaire was administered by designated base officials to all enlisted men as part of their separation procedures. The questionnaire was designed to gather information as to their interest in teaching, educational background, occupational experiences, personal data, and other related information.

To fulfill the first objective of the study each respondent was classified according to his interest in teaching. The respondents were divided into two groups: (a) those who had indicated a positive interest in teaching and (b) those who were not interested in teaching.

The questionnaires returned by enlisted men who were interested in teaching were selected for further analysis. Characteristics examined included: age, level of education, years of service duty, military rank, vocational or technical course work taken, occupational experience, willingness to take additional training in order to qualify for teaching, willingness to move in accepting a teaching position, and type of student the respondents preferred to teach.

The third objective was to determine the number of outstanding teacher prospects and the vocational or technical area they were best qualified to teach. To be classified as potential teachers, respondents had to meet all of the following criteria:

1. Must have expressed an interest in teaching.
2. Must have one or more years of occupational experience within one area.
3. Must have taken one or more specialized courses within one subject area.

Results

A total of 1,152 enlisted men completed the military questionnaire and approximately 27 per cent indicated an interest in teaching as a future occupation. The results varied slightly between the services with about 24 per cent of the men separating from the Navy, over 25 per cent of the men separating from the Army and nearly 34 per cent of the men separating from the Air Force expressing an interest in teaching as a career.

Enlisted men separating from the service who were less than 21 years of age did not appear to be a viable source for vocational and technical teachers. The best source for teachers in relation to an age category was found to be those enlisted men who were from 21 to 22 years old. Not only were large numbers of men separated from the service at this age, but they expressed an above average interest in teaching and were young enough to be able to afford the time it would take to obtain the education necessary to meet various state certification requirements.

The level of education attained prior to entering the military service was found to have a direct relationship to an expression of interest in

teaching as a career. Enlisted men separated from the service who had 13 or more years of education prior to entering the armed forces represented the group with the most interest in teaching and should be considered in any search for teachers.

Ninety per cent of the men surveyed and 90 per cent of the men who expressed an interest in teaching had served from 2 to 4 years in the military service. No positive relationship was determined between the years of active military service and percentage of enlisted men interested in teaching.

Rank groups were designed to cluster three comparable ranks within each of the services and an analysis was made by comparing these clusters with an expressed interest in teaching. There was a positive relationship between military rank of the enlisted men and their interest in teaching. The percentage of men interested in teaching increased consistently as the rank increased. Efforts to locate prospective teachers would be more productive as the interviewer moved to the higher enlisted ranks.

Forty-two per cent of the enlisted men who had expressed an interest in teaching had completed course work in some phase of Technical, Trade, and Industrial Education. Over 51 per cent of the men interested in teaching reported some type of occupational experience in the Technical, Trade, and Industrial Area. It would appear that the military service could provide an excellent source for potential teachers, especially in the Electrical Trades, Mechanical Service and Hand Trades.

Enlisted men separating from the military service expressed a high degree of willingness to take additional training in order to meet teacher certification requirements. Almost 82 per cent of the respondents interested in teaching were willing to take one or more years of additional training to qualify as teachers of vocational and technical subjects. The majority of the men interested in teaching would be willing to teach at any level. Additional flexibility was noted in that 53 per cent of the men interested in teaching were willing to move to another state to accept a teaching position.

One hundred and four men were classified as outstanding teacher prospects for vocational and technical areas. These men had expressed an interest in teaching and had an educational and experience background which would qualify them as an outstanding teacher prospect. The 104 men represented 9 per cent of the sample of 1,152 enlisted men separating from the three branches of the armed forces.

I

INTRODUCTION

Probably the single most critical problem that states are facing as they attempt to live up to the purposes of the Vocational Education Act of 1963, is the shortage of qualified instructors. Many state directors have found that as additional vocational and technical education programs are considered, the major factor which has limited full expansion has been the limited supply of teachers. The teacher supply problem was foreseen by leaders of vocational and technical education at the time Public Law 88-210 was signed by the President. Their concern was justified by early reports from around the nation which indicated that there were many more teaching positions than could be filled with the current supply of qualified personnel.

In the early summer of 1965, representatives from the American Vocational Association, vocational teacher education, business and industry, along with staff members from The Center for Vocational and Technical Education met in Columbus, Ohio, to outline the framework for a coordinated effort to study the supply and demand for teachers in vocational and technical education.

Following the committee meeting in Columbus, Ohio, Dr. Joseph E. Barber, who was employed by the American Vocational Association, Washington, D. C., was given the responsibility for initiating a Center-sponsored project entitled, "The Demand for and Selected Sources of Vocational and Technical Education Teachers." Later in the fall of 1965, Dr. James W. Hensel, Specialist in Agricultural Education, was designated to coordinate the project and act as The Center representative. It was determined that two research projects were needed to examine the different aspects of the problem.

The first project was to determine the need for teachers in vocational and technical education. The purpose of this effort was to determine as accurately as possible the present supply and projected demand for teachers in vocational and technical education at the high school and post-high school level. The project was completed in 1966 and the results of the project were included in The Center publication entitled, "The Demand for Teachers in Vocational and Technical Education."

The second project was designed to determine whether the military services offered a potential source of teaching talent. This publication is the end product of the second project which included a survey of 1,152 enlisted men separating from the Army, Navy, and Air Force, during a one or two week period in June or July, 1966.

It should be noted that the survey of the military services was planned as a feasibility study to determine whether there were sufficient numbers of men being separated from the armed forces with specific technical skills and interest in teaching to warrant further study. There was no intent on the part of the project staff to establish a teacher recruitment system or in any way interfere with on-going programs within the armed forces.

II

THE PROBLEM

Review of Related Research and Literature

A search of the literature revealed that the shortage of teachers in vocational and technical education is a long-standing problem. Educators recognized the shortage of qualified teachers as the crux of a nationwide problem long before vocational and technical education programs began to feel the effects of increased federal concern and funding. A statement in the publication, *Teachers of Tomorrow*, emphasized this early concern with the statement:

If we match our needs against the prospective supply of well-qualified teachers, we can come to only one conclusion. It will be impossible under the present patterns of teacher recruitment and teacher utilization to secure anywhere near enough good teachers for our schools and colleges over the next 15 years. (15)*

More recently, Grant Venn (21) stated, "One of the greatest handicaps to the improvement and expansion of vocational and technical education is the desperate shortage of qualified teachers and administrators."

It would appear that a further search of related literature and research would show much attention focused on identifying the means by which the critical teacher shortage could be alleviated. This has not been the case.

Efforts have been made to locate studies made of enlisted men separating from the military service as a potential source of teachers, but none were located. Several books were reviewed which discussed the relationship between military and civilian occupations, and several studies were reviewed which had been conducted with retiring military personnel as a potential source of teachers.

In the book Classroom in the Military, Clark and Sloan have stated:

Although the main objective of education in the Armed Forces is to train troops for combat, at least 60 per cent of what is taught is applicable to civilian occupations. At one time, a wide gap separated business from military life, and, although

*Number in brackets corresponds to bibliography.

education was considered desirable, it was looked upon as a rather unnecessary adjunct to either one. A military career was regarded as something of an adventure, and business life was thought to be concerned only with practicalities. For both, experience was rated the best teacher.

Today, this gap has been closed. Technical advance has merged civilian life with the military. All the intricacies of motorcars, airplanes, radio, television, mechanical refrigeration, and most other technological developments are common to both. (5)

The similarities between military and civilian occupations can be observed in the following information taken from the handbook, Army Occupations and You. (2) The figures indicated the percentage of enlisted men in the Armed Forces who were in these occupational areas in 1963.

Mechanics and Repairmen - - - - -	25 per cent
Administrative and Clerical - - - - -	20 per cent
Electronics - - - - -	14 per cent
Ground Combat - - - - -	14 per cent
Services - - - - -	12 per cent
Other Technical - - - - -	8 per cent
Crafts - - - - -	7 per cent

These figures reflect that at least 59 per cent of the enlisted men in the military service were working in occupations which related closely to civilian occupations.

A Department of Defense publication, Teaching: A Second Career, (14) provided information for retiring enlisted men and officers concerning the possibilities of teaching as a second career. The results of several surveys conducted with retiring personnel as to their interest in teaching are included in the booklet. The booklet reported one survey which was conducted with a select group of 8,833 retired officers of the Armed Forces as to their interest in teaching science and mathematics. Of the 2,633 replies, 41.7 per cent were interested in teaching, 8.3 per cent expressed possible future interest, and 10.9 per cent were already teaching. Another interest survey was reported in Teaching: A Second Career which had been conducted with officers in all services who were within four years of retirement. Of the 37,024 respondents, 31.4 per cent were positively interested in teaching, and 35.6 per cent stated they might be interested.

The Department of Defense publication further reported that the Army found 3.6 per cent of its enlisted men held a baccalaureate degree or higher. It was estimated that from 1960 through 1965, 7,350 enlisted men would retire each year. This would result in 265 enlisted men (3.6 per cent of 7,350) retiring each year who possessed a college degree. The results from the two surveys and the Army's findings indicated that men who were about to retire or had retired from the military service were a potential source of instructors. Although the surveys were directed toward interest in teach-

ing science and mathematics, it may have been possible that a portion of the respondents were interested and qualified to teach in a vocational or technical area.

Another example of the interest retired officers may have in teaching was supplied by Locksley. (8) He reported that 63 of the 73 retired officers, graduated since 1959, from a program at Duke University designed to prepare them as mathematics teachers, were still teaching in the academic year of 1964-65. He found that of the 63 retired officers, 47 were teaching in colleges and universities and 16 in secondary schools and technical institutes. The Duke University program was reported as successful and indicated that retired military officers provided a source of future teachers.

Several research studies concerning retired officers as a source of potential teachers were found in progress. The Bureau of Social Science Research was reported to be conducting a "Study of the Employment of Retired Military Personnel." (4) The purpose of this study was to collect data as to the employment patterns and problems of retired military personnel. The pre-retirement questionnaire was administered to 71 officers and 63 enlisted men. Preliminary findings indicated that 58 per cent of the officers indicated that training and experience gained in the service would help a great deal in work after retirement, and 24 per cent indicated that training and experience gained in the service would help a great deal in their work after retirement, and 29 per cent responded that it would help somewhat.

The System Development Corporation of Santa Monica, California (SDC), has studied the potential of utilizing retiring military personnel for teachers in vocational and technical education programs. The study entitled, "A Study of Potential Utilization of Retiring Military Personnel in Vocational and Technical Education Programs" (17), was funded through the U.S. Office of Education, Project Number OE-6-85-033. Contact was maintained with SDC in an effort to prevent duplication of effort, and it was hoped that when both studies were completed, an accurate prediction could be made as to the possibility of the military services providing potential teachers in areas of vocational and technical education.

The major objectives of the Systems Development Corporation study were to identify military occupations which related to skills needed by teachers in trade and technical education programs, determine the need for teachers in trade and technical education programs, obtain a sample of retiring military personnel who possessed occupational skills similar to skills needed in trade and technical programs, and from those sampled, determine the number who have the requirements to become teachers.

The major difference between the SDC project and the one of concern in this report was that the SDC project was primarily concerned with retiring military personnel, whereas, The Center for Vocational and Technical Education study dealt only with enlisted men who were separating from the military service. Both studies were interested in the same overall purpose, finding potential teachers for the vocational and technical education programs.

The relationship between military service occupations and civilian occupations was mentioned in a speech to Veterans of Foreign Wars by Secretary of Defense Robert McNamara on August 23, 1966. (10) Several excerpts from this speech were considered relevant:

... The services provide enlisted men with professional training in some 1,500 different skills in more than 2,000 separate courses.
... The United States Armed Forces Institute currently has enrolled 258,000 students in hundreds of courses including everything from the grammar school level through college.
... The services return over half million personnel annually to the country's skilled manpower pool.

The review of literature indicated that some similarities existed between occupations in the military and the civilian labor market. This would lead one to believe that military personnel separating from the service could be tapped in an effort to relieve the teacher shortage. Research studies have been initiated to determine the extent to which military personnel might be utilized as teachers, but no study has been identified which sought to determine how enlisted men who were separating from the Armed Forces might provide a source for teachers in vocational and technical schools.

Purpose and Objectives

The primary purpose of the study was to determine whether the military services offered a potential source for teachers in vocational and technical education. Specific objectives of the study were:

1. To determine the percentage of enlisted men being separated from the military service who were interested in teaching as a future occupation.
2. To determine, from those interested in teaching: the age of the enlisted men being separated from the service, their educational background and occupational experience in relation to a vocational or technical subject area, their years of active duty and military rank, their vocational and technical course work background, the length of additional training they would be willing to take in order to qualify for teaching, the students they prefer to teach, and their willingness to move to a different part of the nation to accept employment.
3. To identify, from the number of respondents who had expressed an interest in teaching, enlisted men who possessed both educational and occupational qualifications to be considered as outstanding teacher prospects in vocational and technical schools.

III

METHODS AND PROCEDURES

During the summer months of 1965, a questionnaire was developed by the project staff to provide the needed information concerning enlisted men who were separating from the military service. The purpose of the questionnaire was to gather information from enlisted men concerning their interest in teaching, educational experience, occupational background, personal data, and other related information which would indicate their potential as future teachers in vocational and technical schools.

The questionnaire was reviewed by specialists from The Center for Vocational and Technical Education and by military personnel in Washington, D. C. during the developmental stages. On September 22, 1965, the instrument was officially cleared by the U. S. Office of Education.

A major delay in the military survey occurred late in the summer of 1965 through the spring of 1966 when the Navy temporarily "froze" all enlisted personnel and did not allow men to leave active duty. This restriction on separating personnel made it impossible for The Center to conduct the survey during this time. In June, 1966, the situation was deemed as being back to a normal outflow and work on the military project was resumed.

The next step in the investigation of enlisted men as potential sources of teachers was the development of procedures to use in administration of the questionnaire. The large number of men separating from the military service implied that some form of a sampling procedure must be used which would allow a true representative group of enlisted men to be sampled.

It was deemed essential that the identification and subsequent selection of military bases be purposeful, thus the Department of Defense was asked to assist in the selection of an appropriate base in each service to insure reliability of the data. Criteria were established which required that the base must:

1. Represent a cross section of similar processing centers in the military. The military base might be considered "typical."
2. Provide a sufficient number of men being separated to offer a wide range of technical skills and abilities.
3. Provide a sample of men returning to all parts of the nation.
4. Provide a cross section of military rank and specialties.

Military officials designated one Army, one Navy, and one Air Force base, each of which represented a typical separation center for its particular service. Bases recommended by the Department of Defense included:

U.S. Army Transfer Station, Fort Hamilton, New York; U.S. Naval Station, Treasure Island, California; McGuire Air Force Base, New Jersey.

Communications were established with each of the recommended military installations and instructions were given for the administration of the questionnaire, as follows:

1. All men who are being separated should be asked to fill out at least the first page.
2. A record should be made of the total number of men being processed as well as those who complete the questionnaire.
3. The questionnaire should be administered during a single week and include all men separating during this period regardless of rank.
4. The week selected should give a record of a typical or average group being separated.

All Air Force questionnaires were completed during the third and fourth weeks of June, 1966. A total of 305 useable questionnaires were returned by the Air Force at McGuire Air Force Base, New Jersey. During the third week of July, 1966, the U.S. Army Personnel Center at Fort Hamilton, New York, completed 641 useable questionnaires. During the third week of June, 1966, questionnaires were given to 206 Navy personnel leaving the military service from the U.S. Naval Station, Treasure Island, California. The three military centers returned 1,152 useable questionnaires to The Center for Vocational and Technical Education for study and analysis.

The questionnaires were coded and each military separatee was classified according to his interest in teaching as a future occupation and the information was placed on IBM cards for further analysis. The respondents were divided into two groups: (a) those who had indicated a positive interest in teaching, and (b) those who were not interested in teaching or had not responded to the question concerning their interest in teaching. Selected characteristics of the two groups were compared to determine measurable differences. The selected characteristics included: age, level of education, years of service duty, and military rank.

The respondents who were interested in teaching were selected for further analysis for the purpose of this study. Emphasis was placed on identification of areas of vocational or technical course work taken, identification of occupational experience, willingness to take additional training in order to qualify for teaching, willingness to move in accepting a teaching position, and type of student the respondents preferred to teach.

The third major objective of this study was to identify outstanding teacher prospects and the vocational and technical areas they were best qualified to teach. The question concerning interest in teaching did not distinguish whether or not the men were qualified in the area of vocational or technical education. Subsequent analysis of the questionnaire was necessary to provide the researcher with an indication as to each individual's qualifications and whether he met the three criteria established for an outstanding teacher prospect in vocational and technical education.

To determine the number of outstanding teacher prospects, respondents had to meet all of the following criteria:

- a. Must have expressed an interest in teaching.
- b. Must have one or more years of occupational experience within one area.
- c. Must have taken one or more specialized courses within one subject area.

The vocational and technical course work and occupational areas utilized throughout the report included the following:

1. Agricultural Education
2. Business and Office Education
3. Distributive Education
4. Health Education
5. Technical, Trades, and Industrial Education
 - a. Building and Construction
 - b. Metal
 - c. Mechanical Service and Hand Trades
 - d. Electrical
 - e. Printing and Publishing
 - f. Domestic and Personnel Services

Further outlines of the courses and occupations included within the vocational and technical areas are found in Appendix D.

The primary limitations of the study were viewed as follows:

1. The questionnaires were administered at each location by military personnel. Although the procedures were outlined and the criteria established, the researcher had no direct control over the manner in which the questionnaires were administered.
2. A distinction was made between enlisted men who were separating and those who were retiring from active duty in the armed forces. This study was concerned only with the enlisted men who were separating from the military service. Retired military personnel were not included to avoid duplication of a study made by System

Development Corporation (SDC) of Santa Monica, California, "A Study of Potential Utilization of Retiring Military Personnel in Vocational and Technical Education Programs."

3. The study sampled the Army, Navy, and Air Force, but did not include the Marines, Coast Guard, or Special Forces.
4. In identifying course work taken and the occupational experience of the respondents, there was no indication as to whether the courses or occupations listed by the respondents were on a technical or trade level. Therefore, no distinction was made between the two.

Two basic assumptions were made in carrying out this study. First, it was assumed that those bases recommended by military officials were representative of a typical base that separates men from the military service. Secondly, it was assumed that men separating during the time period studied were representative of those being separated from the Armed Forces at any given time.

IV

RESULTS OF THE STUDY

Expressed Interest in Teaching by Service

Table 1 shows that over 25 per cent of the 641 men separated from the Army, nearly 34 per cent of the 305 enlisted men separated from the Air Force, and about 24 per cent of the 206 enlisted men separated from the Navy expressed interest in teaching as a career.

The 315 men separated from the Army, Navy, and Air Force who indicated interest in teaching represented 27 per cent of the 1,152 men surveyed.

TABLE I

INTEREST IN TEACHING BY SERVICE

Branch of Military Service	Interest Expressed in Teaching			Total
	Yes	No	No Response	
Army				
Number	163	466	12	641
Per cent	25.4	72.7	1.9	100.0
Navy				
Number	49	147	10	206
Per cent	23.8	71.3	4.9	100.0
Air Force				
Number	103	184	18	305
Per cent	33.8	60.3	5.9	100.0
Total				
Number	315	797	40	1152
Per cent	27.3	69.2	3.5	100.0

Interest in Teaching by Age

The age distribution of the respondents separating from the three branches of the Armed Forces was summarized in Table 2. Approximately 75 per cent of the 1,152 enlisted men were between 21 and 24 years of age. Similarly, about 79 per cent of the 315 enlisted men who expressed an interest in teaching were also between 21 and 24 years of age.

TABLE 2
INTEREST IN TEACHING BY AGE

Number of Men by Service	Age of Respondents					No Response	Total
	Under 21	21 through 22	23 through 24	25 through 26	27 through 35		
Army	22	78	47	10	6	--	163
Navy	2	28	14	4	1	--	49
Air Force	<u>6</u>	<u>61</u>	<u>22</u>	<u>10</u>	<u>4</u>	<u>--</u>	<u>103</u>
Enlisted Men Interested in Teaching	30	167	83	24	11	--	315
Total Number of Men Surveyed Within Each Group	155	562	307	93	33	2	1152
Per cent of Men Interested in Teaching Within Each Age Category*	19.35	29.72	27.04	25.81	33.33	--	27.34

*Percentage of men interested in teaching within each age category.
Example: 30 of 155 men under 21 years of age were interested in teaching

$$\frac{30}{155} = 19.35 \text{ per cent}$$

The youth who were less than 21 did not appear to be a viable source for potential teachers as only 19 per cent expressed any interest. Nearly 30 per cent of the men 21-22 years old expressed an interest in teaching which would make this group an excellent potential source for teachers. Not only were large numbers separated from the service at this age, but they had an above average interest and were young enough to be able to afford the time it would take to obtain the necessary education to meet various state certification requirements.

Interest in Teaching by Educational Level

The educational level completed by the respondents prior to entering the military service was reported in Table 3. Over 65 per cent of the 1,152 enlisted men surveyed and 72 per cent of the 315 men interested in teaching had completed the 12th grade and no more. Data in the table shows that the percentage of men interested in teaching increased dramatically as the level of education increased. Fifty-five per cent of the men who had completed 14 years, and nearly 48 per cent of the men who had completed 15 or more years of education prior to entering the service, expressed an interest in teaching.

Very few enlisted men with less than twelve years of education expressed an interest in teaching. Low interest in teaching within this group was to be anticipated as these men had probably become disenchanted with education and had dropped out of school prior to graduation.

The data in Table 3 indicated that the level of education completed prior to entering the military service has a profound effect on the expression of interest in teaching. Enlisted men being separated from the service who have had 13 or more years of education, represent the group with the greatest interest in teaching, and should be considered carefully in any future search for potential teachers.

TABLE 3
INTEREST IN TEACHING BY EDUCATIONAL LEVEL

Number of Men by Service	Level of Education Completed Prior to Entering Service						Total
	Less than 12	12	13	14	15 or More	No Response	
Army	21	103	9	21	9	--	163
Navy	2	39	5	3	--	--	49
Air Force	<u>7</u>	<u>86</u>	<u>5</u>	<u>3</u>	<u>2</u>	<u>--</u>	<u>103</u>
Total Number of Men In- terested in Teaching	30	228	19	27	11	--	315
Total Number of Men With- in Each Educational Level	269	752	54	49	23	5	1152
Percentage of Men Inter- ested in Teaching Within Each Educational Level	11.2	30.3	35.2	55.1	47.8	--	27.34*

*Represents the percentage of the total number surveyed interested in teaching.

Interest in Teaching and Years of Active Service Duty

Table 4 shows the years of active duty served by those interested in teaching. Ninety per cent of the 1,152 men surveyed had served from 2 to 4 years in the service. Similarly, 90 per cent of the 315 men interested in teaching had also completed from 2 to 4 years of active duty.

The typical enlistment requirements for each service became quite obvious at this point as most of the Army men were separating after two or three years of active duty, while the majority of the Navy and Air Force men had completed four years of military service. Thirty-two per cent of the men who had served four years of active duty in the military service expressed an interest in teaching as compared to the 21 per cent interested after having served two years in the military.

No consistent relationship could be determined between the years of active military service and the percentage of men interested in teaching.

TABLE 4
INTEREST IN TEACHING AND YEARS OF ACTIVE
SERVICE DUTY

Men Interested in Teaching	Years of Active Military Service						Total
	1 or Less	2	3	4	5 or More	No Response	
Army	6	68	82	1	6	--	163
Navy	1	5	14	26	3	--	49
Air Force	<u>4</u>	<u>1</u>	<u>27</u>	<u>61</u>	<u>10</u>	<u>--</u>	<u>103</u>
Enlisted Men Inter- ested in Teaching	11	74	123	88	19	--	315
Total Number of Men Within Each Year Group	38	345	424	275	69	1	1152
Per cent of Men In- terested in Teaching Within Each Year Group	28.9	21.4	29.0	32.0	27.5	--	

Interest in Teaching by Military Rank

Table 5 presents data on interest in teaching for each of six military ranks. Results are combined for comparable ranks of the three services.

There is a positive relation between rank and interest; the percentage of men interested in teaching increases unfailingly as rank increases. This relationship is impressive, even though the number of men surveyed is limited in the highest and lowest ranks, because the chance probability of the perfect ordering of interest by rank is extremely small.

TABLE 5
INTEREST IN TEACHING BY MILITARY RANK

Military Rank	Number Surveyed	Number Interested	Percentage Interested	Percentage of All Men Surveyed	Interested
I Private E-1 Seaman Recruit Airman Basic	15	2	13.3	1.3	.6
II Private E-2 Seaman Apprentice Airman 3rd Class	43	9	20.9	3.7	2.9
III Private 1st Class Seaman Airman 2nd Class	242	61	25.2	21.0	19.4
IV Corporal 3rd Class Petty Officer Airman 1st Class	610	159	26.1	53.0	50.5
V Sergeant 2nd Class Petty Officer Staff Sergeant	226	77	34.1	19.6	24.4
VI Staff Sergeant 1st Class Petty Officer Technical Sergeant	11	7	63.5	1.0	2.2
No Response	<u>5</u>	<u>--</u>	<u>--</u>	<u>.4</u>	<u>--</u>
Totals	1152	315		100.0	100.0

If the data of this study are representative of the total population of separating enlisted men, then efforts to recruit prospective teachers would be more productive the higher the military rank of those interviewed, but the largest number of prospects would be found in Ranks III, IV, and V.

Interest in Teaching by Vocational and Technical
Course Work Background and Occupational Experience

The educational background and occupational experience of the 315 military separatees who expressed interest in teaching vocational and technical subjects was summarized in Table 6.

TABLE 6

INTEREST IN TEACHING BY VOCATIONAL AND TECHNICAL
COURSE WORK BACKGROUND AND OCCUPATIONAL EXPERIENCE

Vocational or Technical Area	Course Work Background		Occupational Experience	
	Total Men Interested		Total Men Interested	
	Number	Per cent	Number	Per cent
Agriculture	4	1.3	3	1.0
Business and Office	24	7.6	37	11.7
Distributive	0	.0	13	4.1
Health	4	1.3	10	3.2
Building and Construction	3	1.0	9	2.9
Metal	4	1.3	3	1.0
Mechanical Service and Hand Trades	30	9.5	40	12.7
Electrical	58	18.4	58	18.4
Printing and Publish- ing	12	3.8	4	1.3
Domestic and Person- nel Services	<u>25</u>	<u>7.9</u>	<u>47</u>	<u>14.9</u>
Sub-Total for Vocational or Technical Area	164	52.1	224	71.1
General	76	24.1	6	1.9
None	16	5.1	38	12.1
No Response	59	18.7	47	14.9
Total	<u>315</u>	<u>100.0</u>	<u>315</u>	<u>100.0</u>

An examination of the data in Table 6 revealed that 52.1 per cent of the men interested in teaching had completed course work in vocational-technical areas and that 71.1 per cent of the men who had expressed interest in teaching had occupational experience in vocational-technical areas. A parallel relationship seemed to exist between the number of men who had completed course work in the vocational-technical education area and the number of men who had occupational experience in these areas.

Forty-two per cent of the enlisted men who had expressed an interest in teaching had completed course work in the Technical, Trade, and Industrial Area, which included the specific occupations of Building and Construction, Metal, Mechanical Service and Hand Trades, Electrical, Printing and Publishing, and Domestic and Personnel Services.

Over 51 per cent of the separating enlisted men interested in teaching indicated they had participated in an occupational experience program in the general area of Technical, Trade, and Industrial Education. Over 18 per cent of the 315 respondents had completed course work and occupational experience in the Electrical field. Further, 30 of the 315 enlisted men interested in teaching had completed course work in the Mechanical Services and Hand Trades and 40 men reported some occupational experience in this field.

It would appear that the military service could provide an excellent source for potential teachers in the Electrical Trades, Mechanical Service and Hand Trades and Business and Office Occupations. Enlisted men separating from the service have educational and experience backgrounds within other vocational or technical areas, but the percentage of potential teachers for these areas appeared to be relatively low.

Length of Additional Training Interested Respondents
Were Willing to Take to Qualify for Teaching

Enlisted men separating from the military service will normally find that additional training is required for them to qualify for a teaching position. Educational requirements for certification are different for every state and separating military personnel would need to seek this type of information from the state in which he planned to seek employment. However, it was felt that the length of time the enlisted man was willing to spend in obtaining additional training was a fair indicator of an honest interest in teaching as a second career.

TABLE 7

LENGTH OF ADDITIONAL TRAINING INTERESTED RESPONDENTS
WERE WILLING TO TAKE TO QUALIFY FOR TEACHING

Length of Additional Training	Enlisted Men	
	Number	Per cent
6 months	17	5.4
1 year	30	9.5
More than 1 year	228	72.4
None	18	5.7
No Response	<u>22</u>	<u>7.0</u>
Total	315	100.0

Data in Table 7 indicated that over 87 per cent of all respondents who were interested in teaching would be willing to take additional training to qualify as a teacher. Seventy-two per cent of the men who said they were interested in teaching indicated a willingness to invest more than one year to prepare for this career.

It was concluded that the men who expressed an interest in teaching were sincere and that they were willing to consider additional training to qualify for a teaching position.

Type of Students Respondents Prefer to Teach

One factor in identifying a possible source of teachers was to determine whom the respondents would be willing to teach. Data in Table 8 revealed that about 51 per cent of the prospective teachers had no preference between the high school or adult student. This would imply that some flexibility was present in that over one half would be willing to teach at any level.

TABLE 8

TYPE OF STUDENTS RESPONDENTS PREFER TO TEACH

Type of Student	Enlisted Men	
	Number	Per cent
High School	107	34.0
Adults	36	11.4
No Preference	159	50.5
No Response	<u>13</u>	<u>4.1</u>
Total	315	100.0

Willingness to Accept a Teaching Position
Anywhere Within the United States

Teachers of vocational and technical subjects are needed in every state in the nation. However, states vary in their specific needs for teachers and do not all face shortages in the same areas. One of the factors which can affect the placement of a vocational or technical teacher would be his willingness to move to the state with the greatest opportunities in his specialty area.

TABLE 9

WILLINGNESS TO ACCEPT A TEACHING POSITION
ANYWHERE WITHIN THE UNITED STATES

Willingness to Move	Enlisted Men	
	Number	Per cent
Yes	166	52.7
No	139	44.1
No Response	<u>10</u>	<u>3.2</u>
Total	315	100.0

As shown by the data in Table 9, 53 per cent of the enlisted men who had expressed an interest in teaching would be willing to accept a teaching position anywhere within the United States. This would imply that these men did not consider state boundaries as a barrier to their seeking the best possible teaching position. This also would indicate that their opportunities for employment would be greatly enhanced and have nationwide significance for school systems seeking teachers.

Enlisted Men Meeting the Criteria as an Outstanding
Teacher Prospect in Vocational and Technical Education

A final objective of the study was to determine the number of outstanding teacher prospects among the enlisted men separating from the armed forces. To be considered as an outstanding teacher prospect, the respondent must have: (a) expressed an interest in teaching, (b) had one or more years of occupational experience within one area, and (c) taken one or more specialized courses within one subject area.

TABLE 10

ENLISTED MEN MEETING THE CRITERIA AS AN OUTSTANDING
TEACHER PROSPECT IN VOCATIONAL AND TECHNICAL EDUCATION

	Army	Navy	Air Force	Total
Total Number Interested in Teaching	163	49	103	315
Number Who Were Interested but Did Not Meet Criteria As Outstanding Prospects for Teaching Vocational-Technical Subjects	<u>115</u>	<u>31</u>	<u>65</u>	<u>211</u>
Total Number of Outstanding Vocational-Technical Teacher Prospects	48	18	38	104

Table 10 indicates the process by which the sample of outstanding teacher prospects were selected. Only 104 enlisted men could be identified when the restrictive criteria were applied to the data given in the questionnaires. The 104 men considered as outstanding teacher prospects represented about 9 per cent of the original sample of 1,152 enlisted men separating from the three branches of the armed forces.

Subject Areas in Which Outstanding Vocational
and Technical Teacher Prospects Were Best Qualified

Table 11 provides a tabulation of the vocational or technical subject areas in which the outstanding teacher prospects were best qualified. By far the greatest number of outstanding teacher prospects had an educational and experience background in the Electrical Trades.

TABLE 11
SUBJECT AREAS IN WHICH OUTSTANDING VOCATIONAL
AND TECHNICAL TEACHER PROSPECTS WERE BEST QUALIFIED

Vocational or Technical Area Best Qualified to Teach	Number Interested	Per cent of Outstanding Teacher Prospects by Interest Area
Business and Office Education	14	13.4
Health Education	4	3.8
Building and Construction	1	1.0
Metal Trades	1	1.0
Mechanical Service and Hand Trades	14	13.4
Electrical Trades	46	44.3
Printing and Publishing	3	2.9
Domestic and Personnel Services	17	16.4
General Education	4	3.8
Total	104	100.0

It would, therefore, appear from these data that the military service would provide a definite source for teachers in the Electrical Trade fields. Other vocational and technical areas which might find the military service an important source for future teachers would be Business and Office Education, Mechanical Service and Hand Trades, and Domestic and Personnel Services.

V

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The following conclusions were based upon the findings of the study:

1. Enlisted men separating from the military services were a possible source of teachers in vocational and technical education. Twenty-seven per cent of the enlisted men surveyed were interested in teaching as a future occupation. Nine per cent of the men surveyed were considered outstanding teacher prospects.
2. The majority of enlisted men being separated from the Army, Navy, and Air Force had the following characteristics:
 - a. were between 21-24 years of age;
 - b. had completed the 12th grade and no more;
 - c. had 2-4 years of service duty.
3. The largest number of men interested in teaching also possessed the characteristics listed in Conclusion No. 2. However, to identify the greatest number of men interested in teaching per man contacted, emphasis should be placed on enlisted men who:
 - a. are over 24 years of age;
 - b. have education beyond the 12th grade;
 - c. are in Rank Group IV including Staff Sergeant in the Army, First Class Petty Officer in the Navy, and Technical Sergeant in the Air Force.

Men possessing these characteristics would be fewer in total number but would have more training and experience in vocational or technical areas. This would imply that they would need to take less additional training to meet teacher certification requirements.

4. The military service offers a potential source for teachers in several fields of vocational and technical education, particularly in the electrical and mechanical fields.

Recommendations

The following are recommendations based on the findings of this study and the need for additional research in this area.

1. An effort should be made to obtain from the Army, Navy, and Air Force, the approximate number of men that separate from their services during a 12-month period. This would then provide for an estimate of the total number of men that would be interested in teaching, the number of outstanding teacher prospects available, and the area in which the outstanding teacher prospects are best qualified to teach.
2. A system, compatible with present military classification structure, should be developed to locate and provide counseling or guidance services to enlisted men separating from the military who have an interest in teaching and possess the qualifications needed as future teachers in a vocational or technical subject area. This service should provide information on teacher certification requirements, salaries, areas in which teachers are needed, and other pertinent information.
3. Teacher training institutions should consider a program in which enlisted men separating from the service who are prospective vocational or technical teachers could meet certification requirements within a 1 to 2-year period.
4. Further study should be conducted with those men separating from the service who:
 - a. are over 24 years of age;
 - b. have education beyond the 12th grade;
 - c. have completed over 3 years of duty;
 - d. are in Rank Group IV and V.

The numbers of men within these groups were fairly small, but they expressed a higher degree of interest in teaching. An in-depth study of these men would provide more information on their potential as future teachers.

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APPENDIX A
MILITARY QUESTIONNAIRE

THE CENTER FOR RESEARCH AND LEADERSHIP DEVELOPMENT IN
VOCATIONAL AND TECHNICAL EDUCATION
980 Kinnear Road, Columbus, Ohio, 43212

M I L I T A R Y Q U E S T I O N N A I R E

1. Name _____ 2. Military Rank _____
(LAST) (FIRST)
3. Male _____ Female _____ Serial Number _____
4. MOS (or rating) _____ 5. Branch of service _____
6. Your age at last birthday _____ 7. Your home address _____
(STREET)
8. How old were you when you began active duty? _____
(CITY) (STATE)
9. Total years of active duty _____. 10. Grade completed prior to entering the service _____. 11. Were you graduated from high school? Yes ____ No ____

12. Please list all technical, vocational, or commercial courses COMPLETED PRIOR to entering the service. Do NOT list any college work here.

<u>NAME OF SCHOOL(S)</u>	<u>COURSE(S)</u>	<u>DATE(S)</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

13. IF YOU ATTENDED COLLEGE, PLEASE LIST:

<u>NAME OF COLLEGE(S)</u>	<u>MAJOR COURSE(S)</u>	<u>DEGREE AND DATE</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

14. OCCUPATIONAL EXPERIENCES
(Include Military Experience)

<u>EMPLOYER</u>	<u>DATE(S)</u>	<u>NATURE OF DUTIES</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

15. Have you taught in service schools? Yes____ No____ 16. If yes, what subjects _____

_____ How long did you teach (Months)? _____

17. Would you consider teaching as a future occupation? Yes____ No____

18. Date available for Civilian employment _____

19. What vocational or trade subjects do you feel qualified to teach? (For example: Auto mechanics, electronics, welding, data processing, etc.) _____

20. Would you prefer teaching high school students____ Adults____
No Preference____?

21. Are you willing to take additional training to qualify for teaching? Yes____
No____. If yes, how much time would you be willing to spend in qualifying
for teaching? 6 months____ 1 year____ More than 1 year____.

22. Would you be willing to accept a teaching position anywhere in the United
States? Yes____ No____

23. If you have definite geographical limitations, what state do you prefer?

24. Do you hold a current license in a Trade or Technical area? Yes____ No____
List _____

25. List main courses of study (Civilian and Military) completed while in the
military service:

NAME OF SCHOOL

COURSE(S)

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

APPENDIX B

A LIST OF PERSONS WHO HAVE
ASSISTED IN THE INVESTIGATION OF
ENLISTED MEN AS A SOURCE OF TEACHERS

Members attending the committee meeting which met at The Center in July, 1965, to discuss the Research Program on the Study of the Procurement, Training, and Placement of Personnel Needed in Vocational Education Programs:

Dr. Joseph Barber--American Vocational Association,
Washington, D. C.

Dr. Robert E. Taylor--Director of The Center for Vocational
and Technical Education, The Ohio State University

Dr. Ralph J. Woodin--Professor in Agricultural Education,
The Ohio State University

Dr. Byrl Shoemaker--State Director of Vocational Education
in Ohio

Dr. R. O. Brinkman--Director of The Technical School,
Springfield, Ohio

Dr. Bill Stevenson--Research Coordinating Unit for Vocational
Education, Oklahoma State University

Mr. Marvin A. Rusk--Personnel Training Director,
Nationwide Insurance, Columbus, Ohio

Other people who have assisted in the investigation of enlisted men separating from the military service as a potential source of teachers were:

Mr. Lane C. Ash--Director, Program Services,
United States Office of Education

Brigadier General William Berg--deputy Assistant,
Secretary for Manpower, Department of Defense

Mr. Mark M. Biegel--U. S. Naval Station,
Treasure Island, California

Major S. N. Bryant--U. S. A. F. Personnel Affairs Division,
Directorate of Personnel Services, Randolph Air Force
Base, Texas

Mr. Lowell A. Burkett--Assistant Executive Secretary,
American Vocational Association

Dr. Sidney High--Project Officer, Division of Adult and
Vocational Research, Department of Health, Education,
and Welfare

Mr. F. A. Keller--McGuire Air Force Base, New Jersey

Lt. Colonel A. A. McKim--U. S. A. F., Chief Military Affairs
Branch, U. S. A. F. Military Personnel Center, Randolph
Air Force Base, Texas

Dr. M. D. Mobley, Formerly, Executive Secretary, American
Vocational Association

Dr. Duane Nielsen--Division of Adult and Vocational Research,
Department of Health, Education, and Welfare

Mr. C. M. Pearcy--U. S. Army Transfer Station, Fort Hamilton,
New York

Lt. Colonel Frederick Stappler, Commanding Officer, U. S. Army
Personnel Center, Fort Hamilton, New York

Captain G. D. Williams, U. S. N., Director of Management Affairs,
Deputy Secretary of Defense

APPENDIX C
RECOMMENDATION OF MILITARY BASES
TO BE SAMPLED

(Military Personnel Policy)

6/13/66

Dr. Sidney High, Project Officer,
Division of Adult and Vocational Research,
Department of Health, Education, and Welfare
Office of Education
Washington, D. C. 20202

Dear Dr. High:

Reference is made to your request for nomination of a point of contact and designation of an installation in connection with a survey of personnel being separated from active service, to identify a potential source of teachers for vocational and technical schools.

The following designations have been made:

<u>Service</u>	<u>Contact Point</u>	<u>Installation</u>
Army	Mr. C. M. Percy	U. S. Army Transfer Station Fort Hamilton, New York
Navy	Mr. Mark M. Biegel	U. S. Naval Station Treasure Island, California
Air Force	Mr. F. A. Keller	McGuire Air Force Base New Jersey

Recommend direct communication with the above listed contact points in order to finalize your implementation plans and to proceed with the desired survey.

Please advise if I can be of further assistance in this matter.

Sincerely,

Frank L. Zirilli
Colonel, USAF
Assistant Director
Personnel Management

APPENDIX D

OUTLINE OF VOCATIONAL AND TECHNICAL COURSE WORK
AND OCCUPATIONAL AREAS

Agriculture

- Agricultural Mechanization
- Agricultural Production
- Agricultural Management
- Agricultural Resources
- Forestry
- Horticulture
- Off-Farm Agricultural Occupations
 - Agricultural Marketing
 - Agricultural Processing
 - Agricultural Supply and Services

Business and Office Occupations

- Accountant, Bookkeeping, and Record Keeping
- Typing
- Secretary (Stenographer, Shorthand, and Correspondence)
- Data Processing
- Clerical (Filing, Office Machines, Supply, and Requisitions)
- Administration

Distribution

- General Sales (Clerk, etc.)
- Retailing (Buying and Selling)
- Wholesaling (Buying and Selling)
- Service and Management Positions

Health Occupations

- Registered Nurse, Practical Nursing and Nurses Aid
- Dental Work
- Optical Work
- Physical Therapy Work
- Medical Laboratory Work
- X-ray Technician Work
- General Medical Work (Operating Room Assistant)

Industrial Arts

Technical Areas and Trades and Industrial Occupations

- Building and Construction
 - Carpentry and Woodworking
 - Bricklaying, Stone Masonry, and Tile Setting
 - Plumbing and Pipe Fitting
 - Painting and Decorating
 - Cement and Concrete Work
 - Plastering
 - Structural and Ornamental Metal Work
 - Heavy Equipment Operator
 - Roofing

Metal Occupations

- Foundry
- Sheet Metal
- Welding (Electric and Oxy-Acetylene)
- Machine Shop
- Tool and Die Operator
- Iron and Steel Work
- Forging-Blacksmith
- Broiler Making

Mechanical Service and Hand Trades

- Gasoline Engine Mechanic
- Diesel Engine Mechanic
- Aircraft (Jet Engine Mechanic)
- Body and Fender Work
- Railroad Mechanics
- Industrial Mechanics
- Shoemaking and Repair
- Guns and Weapons Mechanics
- Drive (Truck, Buses, Commercial Vehicles)
- Aircraft Mechanic
- Missile Work (Guidance, Mechanic, etc.)
- Explosives, Munitions
- Auto Mechanics
- Hydraulic Mechanics

Electrical

- Electric Wiring
- Electric Motors
- Radio and Microwave (Repair)
- Television
- Telegraph, Telephone, Teletype (Repair)
- Appliance
- Air Conditioning and Refrigeration
- Instruments
- Electronics
- Radar

Printing and Publishing

- Printing
- Commercial Art
- Photography
- Drafting

Domestic and Personnel Service

- Hotel or Motel (Service and/or Management)
- Cosmetology
- Barbering
- Janitor
- Police or Guard Work

Domestic and Personnel Service (cont.)

- Surveyor
- Public Service (Postal Work, Sanitation, Fireman, etc.)
- Laundry and/or Dry Cleaning
- Jewelry and Watch Repair
- Air, Land, or Sea Traffic Control
- Communications
- Airplane Pilot
- Intelligence Work
- Food Services
- Upholstering
- Clothing, Alterations

Course Work Taken in Schools or Colleges

- General (Courses taken in several areas listed below)
- Vocational
- Natural Sciences (Biology, Chemistry, etc.)
- Social Sciences (Sociology, History, etc.)
- Education and Psychology
- Business, Commercial, Economics
- Mathematics
- Journalism and English
- Languages
- Dentistry or Medicine
- Law
- Engineering
- Veterinary Medicine

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1	Report of a National Seminar on Agricultural Education, "Program Development and Research," August 9 to 13, 1965. 1965. 176 p.	*
2	Guidance in Vocational Education. Guidelines for Research and Practice. 1966. 181 p.	1.75
3	Guidelines for State Supervisors of Office Occupations Education. 1965. 84 p.	°
4	National Vocational-Technical Education Seminar on the Development and Coordination of Research by State Research Coordinating Unit. 1966. 72 p.	°
5	A Report of the Business and Office Education Research Planning Conference. 1966. 116 p.	°
6	Program Development for Occupational Education. A report of a National Seminar for Leaders in Home Economics Education, March 28-31, 1966. 1966. 118 p.	
7	Report of a National Invitational Research Planning Conference on Trade and Industrial Teacher Education, May 23-27, 1966. 1966. 197 p.	2.00
8	Report of a National Seminar, "Evaluation and Program Planning in Agricultural Education," June 27-30, 1966. 1966. 129 p.	*
10	Guidelines for Cooperative Education and selected Materials from the National Seminar held August 1-5, 1966. 1967. 255 p.	2.00
11	Systems Under Development for Vocational Guidance. 1966. 60 p.	°
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13	Compilation of Technical Education Instructional Materials--Supplement II. April, 1967. 242 p.	3.50

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